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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/622,884	07/18/2003	Michael A. Cosman	20947.NP	2744

7590 05/23/2005

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EXAMINER

LUU, MATTHEW

ART UNIT	PAPER NUMBER
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2676

DATE MAILED: 05/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/622,884

Applicant(s)

COSMAN

Examiner

LUU MATTHEW

Art Unit

2676

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is in response to the Applicant's election filed March 7, 2005.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lancaster et al (US 2001/0027456) in view of Moore (US 2002/0145615) or Kang et al (6,266,068).

Regarding claim 1, Lancaster discloses a method for combining independent scene layers to form computer-generated environments, comprising the steps of:

constructing a terrain layer using stored terrain data (Section 30; section 31, lines 8-24; and section 40, lines 1-8);

generating a feature layer using feature layer data (Section 31, lines 16-17 "cultural data, an object library, for example, 3-D objects for natural and man-made structures"; and section 40, lines 21-23); and

combining the feature layer and the terrain layer to form a composite environment (Section 40, lines 13-23 "whereby: an x,y matrix for a surface

Art Unit: 2676

geology layer... layers; then a georegistered database of roads and other human structures in overlain whereby these surfaces and features dominate over all previous layers.”)

The only difference between the disclosure of Lancaster and the claimed invention is that claim 1 requires the “feature layer data that is stored separately from the stored terrain data”.

However, Moore discloses (Figs. 1 and 4) a method of combining independent scene layers to form computer-generated environments. This method generates a background image layer at step (12) and stores this background image layer independently at step (14). This method also constructs a foreground image layer at step (18) and stores this foreground image layer separately at step (34). The stored background image layer (14) and stored foreground image layer (34) are combined at step (36).

Therefore, it would have been obvious to a person of ordinary skill in the art to use the method of storing different image layers independently into the method for combining the terrain layer with the feature layer of Lancaster to provide a method that creates and stores image layers separately. This method also combines these separately stored image layers at a later time.

Kang et al ('068), on the other hand, also disclose (Figs 2-3) a various data sources of input image layers (204, 208 and 212), wherein the image-based layer (204) can be stored in the maps (206) separately from the video-based layer (208) stored in the maps (210). Thus, since both of Lancaster and Kang et

Art Unit: 2676

al teach the methods of combining image layers from a various data sources (Lancaster, section 7), it would have been obvious to the person of ordinary skill in the art to use separate storing maps (206 and 210) for storing image layers of Kang et al into Lancaster's method to provide a method that combines different image layers from different data sources in mixed model types as suggested by Kang et al (Column 2, lines 46-55).

Regarding claim 2, Lancaster discloses the step of rendering the composite environment for viewing (Sections 20 and 21).

Regarding claim 3, Lancaster further teaches the step of generating a plurality of feature layers (Section 40 ,lines 14-28).

Regarding claim 4, Lancaster discloses (Fig. 5, step 275) the step of determining the locations of features in the feature layer in reference to the terrain layer (Section 53, the last three lines; and section 55 "Next, at step 280, the datum from the surface data file at a geographic location point specifies the appropriate spatial density as a percentage cover for one or more 3-D object types, such as trees or buildings"). The trees or buildings can be considered the as the "features" on the feature layer.

Furthermore, it would have been obvious to the person of ordinary skill in the art to recognize that locations of features, such as roads, buildings, or trees,

Art Unit: 2676

etc. must be specified in the composite image layers to allow a user to construct a computer-generated environments as desired by the user.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

-Sanz-Pastor et al (6,747,649) disclose (Figs. 2, 14 and 15) a terrain rendering method in a three-dimensional environment.

-Huber et al (6,650,326) disclose (Figs. 2-5) a map display device with multiple image layers.

-Lengyel et al (6,064,393) disclose a method for measuring the fidelity of warped image layer approximations in a real-time graphics-rendering pipeline.

-Wysocki et al (5,381,338) disclose a real time 3-D geo-referenced digital orthophotograph-based positioning, navigation, collision avoidance and decision support system.

-Daly et al (6,335,765) disclose a virtual 3-D presentation includes a 3-D background layer, a 2-D video insert layer, and a 3-D foreground layer.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LUU MATTHEW whose telephone number is (571) 272-7663. The examiner can normally be reached on Flexible Schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, BELLA MATTHEW can be reached on (571) 272-7663.

Art Unit: 2676

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

M. Luu

A handwritten signature in black ink, appearing to read 'Matthew Luu', with a stylized flourish at the end.

MATTHEW LUU
PRIMARY EXAMINER